

ON CHIP TEMPERATURE MEASURING AND MONITORING CIRCUIT AND METHOD

ABSTRACT OF THE INVENTION

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A device temperature measurement circuit, an integrated circuit (IC) including a device temperature measurement circuit, a method of characterizing device temperature and a method of monitoring temperature. The circuit includes a constant current source and a clamping device. The clamping device selectively shunts current from the constant current source or allows the current to flow through a PN junction, which may be the body to source/drain junction of a field effect transistor (FET). Voltage measurements are taken directly from the PN junction. Junction temperature is determined from measured junction voltage.